

U.S.C. §103(a) as being unpatentable over Shin et al (U.S. Patent No. 5,689,784, Shin) “in view of admitted prior art of record,” and of Claims 4, 6, 8-11, 13, 18, 20, 22-25, and 27 under 35 U.S.C. §103(a) as being unpatentable over Shin in view of Kinoshita (U.S. Patent No. 5,086,728).

The Office Action Summary included with the outstanding Office Action again indicates that all of Claims 1-29 are rejected but no rejection statement or reasons for rejection have been presented as to of Claim 26. This failure to either properly reject Claim 26 or instead to verify that this independent Claim 26 has been allowed as noted in the response filed on July 18, 2001, is alone believed to require the withdrawal of the improper outstanding Office Action.

In this last regard, MPEP §707.07(d) states that:

Where a claim is refused for any reason relating to the merits thereof it should be “rejected” and the ground of rejection fully and clearly stated, and the word “reject” must be used. The examiner should designate the *statutory basis* for any ground of rejection by express reference to a section of 35 U.S.C. in the opening sentence of each ground of rejection.

Thus, there has been a clear failure to comply with MPEP §707.07(d) as well as with 37 CFR §1.104(a)(1) as to completeness and 37 CFR §1.104(a)(2), which requires that the reasons for any adverse action must be presented. Accordingly, withdrawal of the present incomplete Office Action is believed to be required.

Besides failing to properly treat Claim 26, the outstanding Office Action has again totally ignored 37 CFR §1.104(c)(2) as to the requirement therein that “[w]hen a reference is complex or describes inventions other than that claimed, the particular part relied on must be designated as nearly as practicable.” Emphasis added. This portion of the rule also requires that “each rejected claim [is to be] specified.” Not only did the response filed on July 18, 2001, point this requirement out, it pointed to a similar case law requirement and to the fact

that the general sweeping statements asserting that the complex teachings of Ono (JP-8-297413-A) were relevant to Claim 1 subject matter were not in compliance with either the rule or the case law as follows:

Moreover, 37 CFR §1.104(c)(2) provides that "[w]hen a reference is complex or shows or describes inventions other than that claimed by the Applicant, the particular part relied on must be designated as nearly as practicable." In addition to the rule, the Reviewing Court of the PTO has noted that "when the PTO asserts that there is an explicit or implicit teaching or suggestion in the prior art, it must indicate where such a teaching or suggestion appears in the reference." See In re Rijckaert, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993).

Not only does the Office Action fail to indicate where it is believed that Ono teaches the "two-level developing operation," there is also no indication where it is believed that this reference teaches the voltage source that must apply the developing bias voltage to the conveyor member when this two-level developing operation is performed so as to move at least some of the one-component developer with a predetermined charge adhering to the conveyor surface portion to the photoconductive surface portion to form saturated amounts of the one-component developer, which are limitations also appearing in Claim 1. The further limitations of Claim 1 dealing with the saturated amounts not changing with increasing the image potential above a predetermined threshold value have also not been treated in terms of indicating where this teaching appears in Ono.

Rather than explain where in Ono these Claim 1 limitations are taught or where the ones noted below as to Claims 2, 15, 16, or 29 are taught, the outstanding Office Action again resorts to the expedient of merely concluding that all necessary teachings are present in Ono except for the "two-level developing" teachings, all without any indication where the particular teachings to meet the other challenged limitations appear in Ono in clear violation of both the noted rule and case law requirements. Accordingly, the clear and intentional violation of the requirements of the rules and the case law also mandates that this improper outstanding Office Action be withdrawn.

RESPONSE TO REJECTION

Before turning to the outstanding art rejections, it is again believed that a brief review of the present invention would be helpful. In this regard, the response filed on July 18, 2001, brief review is repeated as follows:

[T]he present invention is directed to an image forming apparatus having a developing device with a conveyor or member that conveys one-component developer to a closely spaced latent image bearing member to perform a two-level developing operation, which operation is defined in the specification to be "a developing operation according to two-level binary image density and formation for each pixel." See page 11, lines 1-6 of the specification for further details. As further described on this page, to overcome various problems, one aspect of the present invention involves a developing condition which is set such that the amount of toner adhering to an image area on a photoconductive surface portion of the latent image bearing member is saturated. Accordingly, even if image potential is increased above a threshold value, the saturated amount of toner does not increase.

Other aspects of the present invention include ensuring that the amount of a one component developer adhering to the conveyor surface portion is about 0.5 mg/cm^2 , and that the absolute value of the predetermined amount of charge of the one-component developer is equal to or less than about $10 \mu\text{C/g}$

In yet other aspects of the present invention, the adhering amount of the one-component developer on the conveyor is formed by a thin layer forming device so as to be from about 1 to about 1.5 times the thickness of the diameter of toner particles in the one-component developer and the movement of one-component developer from the conveyor member to a development region on the latent image bearing member is across a gap between the conveyor surface portion and the opposed photoconductive surface portion that is equal to or less than about 150 μm .

Other aspects also include applying a developing bias voltage to the conveyor member from a voltage source that is made up of an AC voltage superimposed on a DC voltage. The AC voltage has a peak-to-peak voltage value of from 600 to 1200 volts and a frequency from 2 to 6 kHz.

Another aspect includes using a thin layer forming device that protrudes from a holder with a length of about 10-15 mm and that contacts the developer bearing member with a contact pressure of about 10 to about 150 g/cm. The conveyor member is given a surface roughness of about 1 to about 4 $\mu\text{m RZ}$.

Each of the aspects noted above produce beneficial results discussed in the specification, for example, relative to the comparative examples given by Figures 1, 3, 4, and 5.

Turning to the outstanding rejection of Claims 1, 2, 15, 16, and 29 under 35 U.S.C. §103(a) as being unpatentable over Ono (JP-8-297413-A) “in view of admitted prior art of record,” it is first noted that there has been no identification of what this supposedly “admitted prior art of record” is or where the supposed admission as to “prior art” status appears in the record. To whatever extent that the outstanding Action seeks to rely on the definition at page 11, lines 1-3 of applicants’ specification as to what the claim language as to a “two-level developing operation” means in terms of a two-level binary image density formation for each pixel, this definition no where states that a “two-level developing operation” is “prior art.” In this regard the case law as to what constitutes an actual “prior art” admission is clearly set forth by In re Nomiya , 184 USPQ 607, 611-12 (CCPA 1975) as requiring an actual admission of “prior art” status and cautioning that “[i]t is necessary to consider everything appellants have said about what is prior art to determine the exact scope of their admission.” Here, there is no label of “prior art” that is attached to any figure and no section entitled “Description of the Prior Art” as there was in Nomiya.

In addition, it is well established that obviousness cannot be established “on the basis of the applicant's own statements; that is, we must view the prior art without reading into that art appellant's teachings.” See In re Sponnoble , 160 USPQ 237, 243 (CCPA 1969). The court went on to emphasize that obviousness cannot be established without a showing that the teachings of the prior art would, in and of themselves and without the benefits of appellant's disclosure” have led to the claimed invention.

In any event, The failure to properly identify the teachings being relied upon as the “admitted prior art of record” goes hand-in-hand with the above-noted failure to identify where the relied upon teachings in Ono are to be found. In this regard, not only is the outstanding Action devoid of an indication of where the above noted teachings as to the

voltage source that must apply the developing bias voltage to the conveyor member so as to move at least some of the one-component developer with a predetermined charge adhering to the conveyor surface portion to the photoconductive surface portion to form saturated amounts of the one-component developer and the further limitations of Claim 1 dealing with the saturated amounts not changing with increasing the image potential above a predetermined threshold value are to be found in Ono, it also fails to properly treat the added features of Claims 2, 15, 16, and 29 which were noted in the response filed on July 18, 2001, as follows:

Instead of explaining where the limitations of Claim 1 are taught by Ono, the Action merely asserts that there is a teaching of the Claim 2 limitation dealing with the amount of component developer adhering to the conveyor being about 0.5 mg/cm^2 . However, Claim 2 depends upon Claim 1 and all the limitations of Claim 2 must be shown to be described in the reference in the same arrangement as in the claim. See Connel v. Sears Robuck & Co., 220 USPQ 193 (Fed. Cir. 1983). Also, it is not entirely clear where the PTO finds the teaching of about 0.5 mg/cm^2 .

With respect to Claim 15, it is noted that this claim includes "means for applying a developing bias voltage to the means for conveying when the two-level developing operation is performed to move at least some of the one-component developer with a predetermined charge adhering to the portion of the means for conveying to the portion of the means for bearing a latent image to form saturated amounts of the one-component developer" just as Claim 1 did. Once again these limitations have not been address in the Action in terms of indicating were Ono provides such teachings so it can be said to meet these limitations.

The observations made above as to the 0.5 mg/cm^2 of Claim 2 apply equally to Claim 16.

Finally, it is noted that Claim 29 likewise includes requirements as to saturated amounts of the one-component developer on the image areas of the photoconductive surface being formed. Again, the Office Action is silent as to where in Ono such teachings are to be found in violation of the above-noted rule and case law.

Besides failing to explain where the particular parts being relied on appear in Ono and where an admission as to any "prior art" appears in the record, the outstanding Office Action

commits further error in failing to set forth any reasonable basis to make the proposed modification. In this last regard, the PTO reviewing court recently reemphasized the need to properly establish motivation in In re Dembiczak, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999) as follows:

Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references. *See, e.g., C.R. Bard, Inc. v. M3 Sys., Inc.*, 157 F.3d 1340, 1352, 48 USPQ2d 1225, 1232 (Fed. Cir. 1998) (describing "teaching or suggestion or motivation [to combine]" as an "essential evidentiary component of an obviousness holding"); *In re Rouffet*, 149 F.3d 1350, 1359, 47 USPQ2d 1453, 1459 (Fed. Cir. 1998) ("the Board must identify specifically . . . the reasons one of ordinary skill in the art would have been motivated to select the references and combine them"); *In re Fritch*, 972 F.2d 1260, 1265, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992) (examiner can satisfy burden of obviousness in light of combination "only by showing some objective teaching [leading to the combination]"); *In re Fine*, 837 F.2d 1071, 1075, 5 USPQ2d 1596, 1600 (Fed. Cir. 1988) (evidence of teaching or suggestion "essential" to avoid hindsight); *Ashland Oil, Inc. v. Delta Resins & Refractories, Inc.*, 776 F.2d 281, 297, 227 USPQ 657, 667 (Fed. Cir. 1985) (district court's conclusion of obviousness was error when it "did not elucidate any factual teachings, suggestions or incentives from this prior art that showed the propriety of combination"). *See also Graham [v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966)], 383 U.S. at 18, 148 USPQ at 467 ("strict observance" of factual predicates to obviousness conclusion required). Combining prior art references without evidence of such a suggestion, teaching, or motivation simply takes the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability--the essence of hindsight. *See, e.g., Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1138, 227 USPQ 543, 547 (Fed. Cir. 1985) ("The invention must be viewed not with the blueprint drawn by the inventor, but in the state of the art that existed at the time.").

Instead of pointing to any reasonable motivation, the outstanding Action points to the Ono stated "purpose" of obtaining high grade images without fogging that is clearly directed to what Ono accomplishes without any need for further modification. As noted in In re Regel, 188 USPQ 136, 139 n.5 (CCPA 1975) "there must be some logical reason apparent from positive, concrete evidence of record which justifies a combination of primary and

second references." The reason offered in the outstanding Action is not logical as noted above.

The reason offered is further not convincing because there has been no showing of any prior art teaching or suggestion indicating that two-level developing is to be used to provide high grade images without fogging. As noted above, relative to the Sponnoble decision, there must be a "showing that the teachings of the prior art would, in and of themselves and without the benefits of appellant's disclosure" have led to the claimed invention.

Furthermore, even if the PTO properly established that two level developing was prior art, which has not been done, simply establishing that something is known does not also establish the required reasoning as to why the artisan would have been led to modify Ono to incorporate two level developing. See Ex parte Clapp, 227 USPQ 972, 973 (Bd. Pat. App. & Int. 1985) as follows:

Presuming *arguendo* that the references show the elements or concepts urged by the examiner, the examiner has presented no line of reasoning, and we know of none, as to why the artisan viewing only the collected teachings of the references would have found it obvious to selectively pick and choose various elements and/or concepts from the several references relied on to arrive at the claimed invention. In the instant application, the examiner has done little more than cite references to show that one or more elements, or subcombinations thereof, when each is viewed in a vacuum, is known. The claimed invention, however, is clearly directed to a combination of elements. That is to say, appellant does not claim that he has invented one or more new elements, but has presented claims to a new combination of elements. To support the conclusion that the claimed combination is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed combination or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references.

Accordingly, as Ono and what has been simply pulled from a hat by the PTO and misstated to be "admitted prior art of record," have not been shown to either alone or in any proper combination suggest the subject matter of Claims 1, 2, 15, 16, and 29, there has been

no *prima facie* case of obviousness established and the rejection of these claims is respectfully traversed.

Turning to the rejection of Claims 1, 3, 5, 7, 12, 14, 15, 17, 19, 21, 28, and 29 as being unpatentable over Shin in view of the once again asserted but unidentified “admitted prior art of record,” it is again noted that this rejection also fails to establish where the limitations recited by at least the independent Claims 1, 12, 14, 15, 28 and 29 are taught by Shin, where the admission as to prior art is in the specification, and any reasonable basis why the artisan would modify Shin because of this asserted but unidentified “admitted prior art of record.”

For example, where are the teachings of the Claim 1 voltage source that will move at least some of the one-component developer with a predetermined charge adhering to the conveyor surface portion to the photoconductive surface portion to form saturated amounts of the one-component developer and the further limitations of Claim 1 dealing with the saturated amounts not changing with increasing the image potential above a predetermined threshold value to be found in Shin?

While the outstanding Action does set forth a listing of Claim 1 limitations, there is once more no explanation as to where these various listed limitations can be found in the reference, which is now Shin. It is not until the top of page 6 of the outstanding Action that any specific claim limitation is identified as being taught by Shin with reference to a particular part of Shin being relied upon, but this limitation is one from Claims 7 and 21 (as to the gap between the development region and the conveyor surface being less than or about equal to 150 μm), not any limitation of base Claims 1 or 15. Before the obviousness of subject matter added by a dependent claim is at issue, the underlying subject matter incorporated from the base claim must first be shown to be obvious. Thus, to whatever

extent that Shin teaches a gap of 50-200 μm , the subject matter of Claims 7 and 21 also includes that of each of the respective base Claims 1 and 15 that have not been adequately addressed as to the particular parts of Shin being relied upon, much less the mystery of the asserted but unidentified “admitted prior art of record.” For example, where are the teachings in Shin as to the above-noted details of the providing of saturated amounts of the one-component developer and the teaching that saturated amounts will not change with increases of image potential of these parent claims? Accordingly, because this rejection does not comply with 37 CFR §1.104 or the above-noted Rijckaert decision it is traversed for this reason as well as the reasons noted below.

In addition to the above noted limitations of Claim 1 and 15 that are also included in dependent Claims 3, 7, 17, 19, and 21, these claims and independent Claims 14 and 28 add further features that are further not taught or suggested by either Shin or the mysterious and unidentified “admitted prior art of record” considered alone or together in any proper combination. For example, there is no reasonable teaching in Shin of using the toner charge of 10 $\mu\text{C/g}$ or below that is added by dependent Claims 3 to Claim 1 subject matter as well as being specified by independent Claims 14 and 28 and being added by dependent Claims 17 to Claim 15 subject matter. With respect to the relied upon teachings of col. 3, lines 12-14 of Shin, Shin makes it clear that a toner charge of 10 $\mu\text{C/g}$ or below is inferior because a smooth image cannot be obtained due to tonal gradation. Note the full teaching of col. 3, lines 11-15. It is also noted that this amount of charge applies to the use of a developing roller that is a hard roller and not the soft roller used with Shin.

Further lacking from this rejection of Claims 1, 3, 5, 7, 12, 14, 15, 17, 19, 21, 28, and 29 as being unpatentable over Shin in view of the asserted but unidentified “admitted prior art of record,” is the required showing as to the above-noted reasonable motivation. In this

regard, what Shin states at col. 4, lines 10-14 as to what his invention already achieves cannot be considered to logically serve to motivate some further undefined modification thereto. Also missing is the presentation of some prior art based teaching that the use of two-level developing will contribute to improving both solid and line images. Accordingly, this rejection is further traversed as lacking any reasonable prior art taught basis for suggesting the proposed modification.

Turning to the rejection of Claims 4, 6, 8-11, 13, 18, 20, 22-25, and 27, it is first noted that Kinoshita cures none of the deficiencies noted above as to Shin. Moreover, the attempt to take the thin layer forming device of Kinoshita that contacts the developer bearing member thereof with the contact pressure specified at col. 6, line 65 - col. 7, line 3 out of context ignores that these teachings apply to a developing sleeve that is of the hard type which is not the subject matter of concern to Shin. In this regard Shin differentiates hard and soft rollers at col. 3, lines 8-67, and notes the superiority of the soft roller and that this superior soft roller is to be used with his device. Note, for example, col. 4, lines 10-14 of Shin. Once more lacking is any reasonable basis why the pressure used to contact the hard roller of Kinoshita would be reasonably suggested as a modification to contact the soft roller of Shin. Accordingly, no *prima facie* case has been set forth.

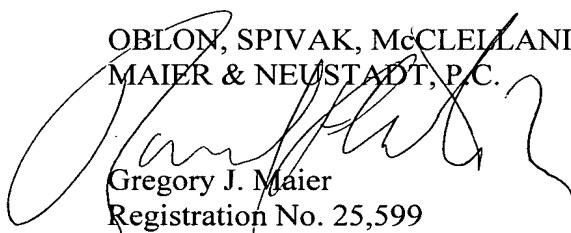
Finally, it is noted that the outstanding Action improperly suggests that the remaining limitations of Claims 4, 6, 8-11, 13, 18, 20, 22-25 and 27 dealing with, for example, surface roughness, values of peak-to-peak voltages and frequencies, and the protruding length of the thinning member, are all matters of routine design. However, the reliance upon In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980) is inappropriate as it is clear that the prior art gives no indication that optimizing these particular variable leads to any particular desired result. In this regard, In re Antonie, 195 USPQ 6 (CPA 1977) indicates that there must be a

showing that the prior art recognized that the variable to be optimized was a result-effective variable. Because there has been no such showing here, there can be no optimization of a result-effective variable that would involve only routine skill in the art and the rejection as applied to Claims 4, 6, 8-11, 13, 18, 20, 22-25 and 27 is clearly in error and traversed for this reason as well.

In view of the fact that the outstanding Office Action fails to establish a *prima facie* case of unpatentability as to any of the rejected claims, and because no other issues remain outstanding, it is believed that the present application is clearly in condition for formal allowance and an early and favorable action to that effect is, therefore, respectfully requested.

Respectfully submitted,

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